

IN THE CLAIMS:

Please amend the claims by canceling claims 34-37, without prejudice, as drawn to non-elected subject matter, canceling claims 1-33, without prejudice, and adding new claims 38-88 as follows:

1.-37. Cancelled

Please add new claims 38-88 as follows:

38. (New) A method for identifying whether a compound inhibits entry of a virus into a cell comprising:
- (a) contacting a viral particle and a cell in the presence of the compound, wherein the cell expresses a cell surface receptor to which the virus binds, and wherein the viral particle comprises: (i) a viral expression vector comprising a nucleic acid encoding an envelope protein of the virus, and an indicator nucleic acid that produces a detectable signal, wherein the nucleic acid encoding the envelope protein is derived from a patient infected by the virus; and (ii) a viral envelope protein encoded by the nucleic acid derived from the patient infected by the virus;
 - (b) measuring the amount of the detectable signal produced by the cell; and
 - (c) comparing the amount of signal measured in step (b) with the amount of the detectable signal produced by the cell in the absence of the compound,
- wherein a reduced amount of the detectable signal measured in (b) relative to the amount measured in the absence of the compound indicates that the compound inhibits entry of the virus into the cell.
39. (New) The method of claim 38, wherein the viral particle is produced by co-transfecting into a cell (i) a nucleic acid encoding a viral envelope protein obtained from a patient infected by the virus, and (ii) a viral expression vector lacking a nucleic acid encoding an envelope protein, wherein the vector comprises an indicator nucleic acid that produces a detectable signal.

40. (New) The method of claim 38, wherein the amount of detectable signal produced by the cell in the absence of the compound is measured by contacting the viral particle and the cell of step (a) in the absence of the compound.
41. (New) The method of claim 38, wherein the indicator nucleic acid comprises an indicator gene.
42. (New) The method of claim 41, wherein the indicator gene is a luciferase gene.
43. (New) The method of claim 38, wherein the cell surface receptor is CD4.
44. (New) The method of claim 43, wherein the cell also expresses a chemokine receptor.
45. (New) The method of claim 44, wherein the chemokine receptor is CXCR4 or CCR5.
46. (New) The method of claim 38, wherein the cell surface receptor is a chemokine receptor.
47. (New) The method of claim 46, wherein the cell surface receptor is CXCR4 or CCR5.
48. (New) The method of claim 38, wherein the patient is infected with an HIV virus.
49. (New) The method of claim 38, wherein the nucleic acid derived from the patient comprises nucleic acid that encodes gp120 or gp41.
50. (New) The method of claim 38, wherein the nucleic acid derived from the patient comprises nucleic acid that encodes gp160.
51. (New) The method of claim 38, wherein the viral expression vector comprises HIV nucleic acid.
52. (New) The method of claim 51, wherein the viral expression vector comprises an HIV gag-pol gene.

53. (New) The method of claim 51, wherein the viral expression vector comprises nucleic acid encoding vif, vpr, tat, rev, vpu, and nef.
54. (New) The method of claim 52, wherein the viral expression vector comprises nucleic acid encoding vif, vpr, tat, rev, vpu, and nef.
55. (New) The method of claim 39, wherein the cell is a mammalian cell.
56. (New) The method of claim 55, wherein the mammalian cell is a human cell.
57. (New) The method of claim 56, wherein the human cell is a human embryonic kidney cell.
58. (New) The method of claim 57, wherein the human embryonic kidney cell is a 293 cell.
59. (New) The method of claim 38, wherein the cell is a human T cell⁶.
60. (New) The method of claim 59 wherein the cell is a human T cell leukemia cell.
61. (New) The method of claim 38, wherein the cell is a peripheral blood mononuclear cell.
62. (New) The method of claim 38, wherein the cell is an astroglioma cell.
63. (New) The method of claim 62 wherein the astroglioma cell is a U87 cell.
64. (New) The method of claim 38, wherein the cell is a human osteosarcoma cell.
65. (New) The method of claim 64 herein the human osteosarcoma cell is an HT4 cell.
66. (New) The method of claim 38, wherein the compound binds to the cell surface receptor.

67. (New) The method of claim 38, wherein the compound is a ligand of the cell surface receptor.
68. (New) The method of claim 66 wherein the compound comprises an antibody.
69. (New) The method of claim 38, wherein the compound inhibits membrane fusion.
70. (New) The method of claim 38, wherein the compound is a peptide, a peptidomimetic, a small organic molecule, or a synthetic compound.
71. (New) The method of claim 38, wherein the compound binds the viral envelope protein.
72. (New) A method for identifying a cell surface receptor that is bound by a virus upon infection of a cell by the virus comprising:
- (a) contacting a cell which expresses a cell surface receptor with a viral particle that comprises (i) a viral nucleic acid and (ii) an indicator nucleic acid which produces a detectable signal; and
 - (b) measuring the amount of detectable signal produced within the cell, wherein production of the signal indicates the cell surface receptor expressed by the cell is bound by the virus,
- thereby identifying the cell surface receptor as being bound by the virus upon infection of the cell.
73. (New) A method for determining susceptibility of a virus to a compound that inhibits viral cell entry comprising:
- (a) contacting a viral particle and a cell in the presence of the compound, wherein the cell expresses a cell surface receptor to which the virus binds, and wherein the viral particle comprises: (i) a viral expression vector comprising a nucleic acid encoding an envelope protein of the virus, and an indicator nucleic acid that produces a detectable signal, wherein the nucleic acid encoding the envelope protein is derived from a patient infected by the virus; and (ii) a viral envelope protein encoded by the nucleic acid derived from the patient infected by the virus;

(b) measuring the amount of the detectable signal produced by the cell; and
(c) comparing the amount of signal measured in step (b) with the amount of the detectable signal produced by the cell in the absence of the compound,
wherein a reduced amount of the detectable signal measured in (b) relative to the amount measured in the absence of the compound indicates that the virus is susceptible to the compound.

74. (New) The method of claim 73, wherein the patient is infected with an HIV virus.
75. (New) The method of claim 73, wherein the viral particle is produced by co-transfecting into a cell (i) a nucleic acid encoding a viral envelope protein obtained from a patient infected by the virus, and (ii) a viral expression vector lacking a nucleic acid encoding an envelope protein, wherein the vector comprises an indicator nucleic acid that produces a detectable signal.
76. (New) The method of claim 73, wherein the cell surface receptor is CD4.
77. (New) The method of claim 76, wherein the cell also expresses a chemokine receptor.
78. (New) The method of claim 77, wherein the chemokine receptor is CXCR4 or CCR5.
79. (New) The method of claim 73, wherein the nucleic acid derived from the patient comprises nucleic acid that encodes gp120 or gp41.
80. (New) The method of claim 73, wherein the nucleic acid derived from the patient comprises nucleic acid that encodes gp160.
81. (New) A method for determining susceptibility of a virus in a patient infected with the virus to a compound that inhibits viral cell entry comprising:
(a) contacting a viral particle and a cell in the presence of the compound, wherein the cell expresses a cell surface receptor to which the virus binds, and wherein the viral particle comprises: (i) a viral expression vector comprising a nucleic acid encoding an envelope protein of the virus, and an indicator nucleic acid that produces a detectable signal, wherein the nucleic acid encoding the envelope protein is derived from the patient infected by the virus; and (ii) a

viral envelope protein encoded by the nucleic acid derived from the patient infected by the virus;

- (b) measuring the amount of the detectable signal produced by the cell; and
- (c) comparing the amount of signal measured in step (b) with the amount of the detectable signal produced by the cell in the absence of the compound,

wherein a reduced amount of the detectable signal measured in (b) relative to the amount measured in the absence of the compound indicates that the virus in the patient infected with the virus is susceptible to the compound.

82. (New) The method of claim 81, wherein the patient is infected with an HIV virus.

83. (New) The method of claim 81, wherein the viral particle is produced by co-transfecting into a cell (i) a nucleic acid encoding a viral envelope protein obtained from the patient infected by the virus, and (ii) a viral expression vector lacking a nucleic acid encoding an envelope protein, wherein the vector comprises an indicator nucleic acid that produces a detectable signal.

84. (New) The method of claim 81, wherein the cell surface receptor is CD4.

85. (New) The method of claim 84, wherein the cell also expresses a chemokine receptor.

86. (New) The method of claim 85, wherein the chemokine receptor is CXCR4 or CCR5.

87. (New) The method of claim 81, wherein the nucleic acid derived from the patient comprises nucleic acid that encodes gp120 or gp41.

88. (New) The method of claim 81, wherein the nucleic acid derived from the patient comprises nucleic acid that encodes gp160.